

A PROGRAM EVALUATION OF THE SERTOMA ARIZONA HEARING AID BANK:
RESOURCE AVAILABILITY AND COMMUNITY NEEDS

by

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As members of the Audiology Doctoral Project Committee, we certify that we have read the project prepared by Jessie-Anne Penkoff, titled *A Program Evaluation of the Sertoma Arizona Hearing Aid Bank: Resource Availability and Community Needs* and recommend that it be accepted as fulfilling the Audiology Doctoral Project requirement for the Degree of Doctor of Audiology.

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DEDICATION

In memory of my grandmother, Judy Jardine. Your spirit has been with me every step of the way. I love and miss you so much. We did it.

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ABSTRACT

The University of Arizona Hearing Clinic is responsible for receiving all Sertoma Arizona Hearing Aid Bank donations and fitting qualified individuals with one hearing aid at reduced cost. These donations come from a variety of community partners within the greater Tucson area. However, it is not known where the partners receive their donations from, how many donations are brought in per month, or whether the program receives enough donations per month to meet the needs of new applicants. This study aimed to create a clinical process to systematically track hearing aid donations, including donation sources and device characteristics, and determine device resources relative to the number of monthly program applications received. Data collection of all the hearing aid donations and new program applications was conducted between February 1st to March 31st, 2018. During this period, 121 hearing aids were donated and 23 Hearing Aid Bank applications were received, with 12 applicants being referred to the program for services. Only 4% of donated devices were immediately useable for program fittings. An additional 23% of donated devices would be useable if funding were available to recondition them. The other 73% of donated devices could previously have been exchanged for salvage credit through a repair lab. However, the present market for salvageable hearing aid parts is saturated. Therefore, the Hearing Aid Bank cannot rely on salvage credit alone to recondition hearing aids. Additionally, through interviews with the community partners, several program challenges and possible solutions were identified. Recommendations were made for finding new volunteers to help identify and reach out to new donation sources, changing current program practices from unilateral to bilateral fittings, and updating eligibility criteria to serve more individuals. Yet, the data collected here suggests that the current rate of donations and funding would need to be increased to sustain the program.

INTRODUCTION

Current Disparities in Hearing Healthcare Provisions

While there is a fair amount of financial assistance available to children and working age individuals with hearing loss, there remains a shortage of affordable hearing healthcare services for older adults (Muller et al., 2015). According to the World Health Organization (2017), approximately 36 million adults in the United States report some degree of hearing loss, with 77% being over the age of 65 years. When looking purely at Pima County demographics, of the 1,016,206 current residents, 194,095 (19.1%) are over the age of 65 years ("U.S. Census Bureau QuickFacts: Pima County, Arizona", 2016). Although hearing loss is one of the most prevalent disabilities, most insurance companies do not cover the cost of hearing aids. For those companies that do, only a portion of the cost is covered which may not be enough financial support for individuals to pursue hearing aid intervention (Donahue, Dubno, & Beck, 2010; Arnold, Hyer, & Chisolm, 2017).

Hearing Aid Bank History

The Sertoma Arizona Hearing Aid Bank is a Pima County based program that works to increase access to hearing healthcare services to low income individuals. The Hearing Aid Bank was created in 1979 through the efforts of Dr. Bill Hodgson at the University of Arizona Hearing Clinic and representatives from both the Tucson Hearing Society and Community Outreach Program for the Deaf. The Midtown Sertoma Club of Tucson took over the Tucson Hearing Society's position when the group disbanded in 2009. The Hearing Aid Bank program was designed to provide used or refurbished donated hearing aids at reduced cost to those who would not otherwise be able to afford them. The program primarily serves the low-income elderly

population, ages 55 and older in the Pima County community (Muller et al., 2015). Current community partner organizations are described in the methods section.

Sertoma Arizona Hearing Aid Bank Donation Processing Procedures

When donations arrive at the University of Arizona Hearing Clinic, both Audiology graduate students from the University and representatives from the Midtown Sertoma Club of Tucson meet once a month to sort through all the hearing aids, batteries, cases, and cleaning tools to determine what could be of use to the Hearing Aid Bank. The donations are then placed in a large box after being cleaned and it is up to the Audiologists and graduate students to go through the collection to select an appropriate device for a qualified Hearing Aid Bank patient (Muller et al., 2015).

Hearing Aid Bank Application Process

When an individual cannot afford hearing aids at full price, they have the option to apply for the Sertoma Arizona Hearing Aid Bank program through the Community Outreach Program for the Deaf. First time applicants must complete a short screening interview over the phone to determine if they will likely qualify for services. If they appear to be Hearing Aid Bank candidates, an in-person interview is set at the Community Outreach Program for the Deaf office where the representative discusses an applicant's needs and eligibility in more detail. During the interview, income level, medical insurance, and current address are discussed, and a short hearing history is taken. Typically, Hearing Aid Bank applicants must be 55 years of age or older, fall under the low-income bracket (most clients have a monthly income of roughly \$500 or less), and live in Pima County. Once the applicant is deemed eligible for receiving services through the Hearing Aid Bank, an appointment is made at the University of Arizona Hearing Clinic (Muller et al., 2015).

Hearing Aid Bank Hearing Aid Fitting Process

During the initial appointment at the University of Arizona Speech, Language & Hearing Clinic, an audiologic evaluation may be completed if the applicant has no outside audiologic records less than six months old. The counseling portion of the appointment includes a discussion of the implications of the individual's hearing loss and potential hearing aid options based on user preferences and hearing loss requirements. Because of the limited supply and high demand for hearing aids, an individual can only receive one device through the Hearing Aid Bank. Although necessary, this policy can be frustrating for some as many people have hearing loss in both ears. Once a hearing aid is selected, the patient must return for a fitting appointment. During the fitting appointment, measurements are taken to ensure a proper fit, both physically and acoustically, and any necessary hearing aid programming adjustments are made. A hearing aid orientation demonstration is then completed, and use and care instructions are reviewed. The entire process of applying for the Hearing Aid Bank and receiving a device costs a patient a total of \$95, with \$25 going to the Community Outreach Program for the Deaf and \$70 to the University of Arizona Speech, Language & Hearing Clinics. If the patient cannot pay the total cost in full to the clinic, payment plans may be arranged through the University (Muller et al., 2015).

PURPOSE

This study had two aims: 1) Create a clinical process to systematically track hearing aid donations, including donation source and device characteristics, and 2) Determine device resources relative to the number of monthly program applications received that would impact the sustainability of the Hearing Aid Bank. The sustainability of the program relies on devices that can be readily used, with or without minor in-clinic repairs, as well as the number of new

applications received per month. This will answer the clinical question regarding whether the Sertoma Arizona Hearing Aid Bank has enough hearing aid supply to support community demand. To assess community demand, the number of Hearing Aid Bank program applications that are received per month by the Community Outreach Program for the Deaf will be evaluated. Although no Personal Health Information will be collected, the number of applications approved versus rejected will be essential information to gather to determine the viability of the program. Additional data will be analyzed regarding common criteria that certain applicants did not meet to determine the major program accessibility barriers.

METHODS

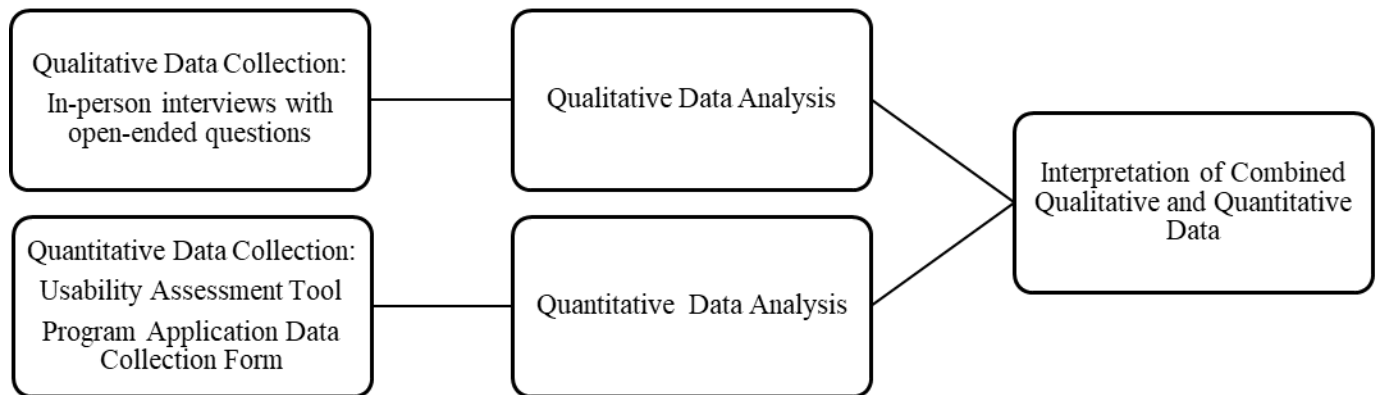
This study combined both qualitative and quantitative methods to assess the community supply of hearing aid donations in relation to community demand for low-cost hearing aid fitting services which are the foundations of the Sertoma Arizona Hearing Aid Bank. A mixed-methods design provided a more comprehensive answer to the research questions at hand and produced better results in terms of quality and scope. The mixed-methods approach occurred simultaneously at all stages of this study, including the formation of research questions, elaboration of the research design, data collection, data analysis, and interpretation and discussion of the various findings relating to hearing aid donations and Hearing Aid Bank program applications (Rosa & Mejorado, 2010).

Program Evaluation: A Triangulation Design

A triangulation design is considered one of the four types of mixed-methods research approaches in which both qualitative and quantitative data are collected and given equal emphasis, allowing for the assessment of the strengths of each form of data separately, as well as combined. The rationale behind this design is that the researcher values the two forms of data

equally, and thereby merges both forms to simultaneously understand the research questions through the comparison of findings from the overall combined analysis. During the interpretation phase of the research, this design helps to directly compare and contrast qualitative findings with statistical results to elaborate valid and well-substantiated conclusions about the research questions at hand (Rosa & Mejorado, 2010). Figure 1 shows the data transformation of the triangulation design used in this study. The information has been adapted from the original Triangulation Design by Crestwell & Plano (2007).

Figure 1: Data Transformation of Triangulation Design



Sources of Data

The data collection procedure for this mixed-methods study was designed to use data obtained through: 1) in-person interviews with the Sertoma Arizona Hearing Aid Bank Program Manager and three community partner representatives using open-ended questions, 2) assessment of donations to determine device usability, and 3) an assessment of monthly program applications received by the Community Outreach Program for the Deaf in relation to the number of applicants referred to the Hearing Aid Bank. The following instruments were developed to collect the data for this study (Rosa & Mejorado, 2010):

1. Semi-structured interview protocol with open-ended questions (Appendix A)

- a. Eleven questions designed for the University of Arizona Hearing Aid Bank Program Manager and representatives from each of the three organizations.
 - b. An additional seven questions designed for the Community Outreach Program for the Deaf representative only.
2. A hearing aid Usability Assessment Tool containing five specific phases for evaluating each donation to determine immediate usability (Appendix B).
3. A Hearing Aid Bank program application data collection form to record the number of applications received by the Community Outreach Program for the Deaf to identify potential barriers preventing individuals from being referred for services.
 - a. Age requirement
 - b. Income requirement
 - c. County residency requirement
 - d. Other

Data Collection Timeline and General Procedures

The data was collected in a two-month span from February 1st to March 31st, 2018. The phone number for each community partner representative was obtained from either the Sertoma Arizona Hearing Aid Bank Manager or from each organization's respective website. Each representative was contacted by phone and asked to participate in the study prior to the scheduling of interviews. The interviews were completed at the designated addresses of each organization's physical establishment. The days and times of the interviews were selected based on each representative's weekly availability. The interview questions were brought by the researcher assigned to collecting the qualitative data and read off a computer screen to each representative. A brief explanation of the study was verbally provided by the researcher at the

beginning of the interview process. Each interview lasted approximately 40-50 minutes and was recorded using the Voice Memos application on an iPhone for later transcription and information categorization. Recordings were deleted after transcription and all transcriptions were deidentified if a specific individual's name was mentioned (Rosa & Mejorado, 2010).

Collection and Analysis of Qualitative Data

In-person interviews with 11 open-ended questions were completed with the Sertoma Arizona Hearing Aid Bank Program Manager and one representative from the Midtown Sertoma Club of Tucson, the Adult Loss of Hearing Association, and the Community Outreach Program for the Deaf. An additional seven open-ended questions were included in the interview with the Community Outreach Program for the Deaf representative. Responses to interview questions were used to identify: 1) general histories and group involvement with the Hearing Aid Bank for each organization, 2) perceived Hearing Aid Bank program challenges, 3) subsequent proposed solutions to said challenges, and 3) donation sources to identify patterns that may exist across the organizations. The additional seven questions posed to the Community Outreach Program for the Deaf representative were used identify information relating to Hearing Aid Bank program applications to determine potential requirements preventing some individuals from receiving services (Rosa & Mejorado, 2010).

Each interview question was linked to a specific research inquiry and the items of the interview were sorted into nine main categories (Rosa & Mejorado, 2010):

1. General group history
2. Group involvement with the Hearing Aid Bank program
3. Advocacy strategies for obtaining Hearing Aid Bank donations
4. Perceived Hearing Aid Bank program challenges

5. Suggested solutions to said Hearing Aid Bank program challenges
6. Types of donation sources
7. Average number of Hearing Aid Bank program applications received per month
8. General referral process to the Hearing Aid Bank
9. Potential referral barriers due to Hearing Aid Bank program requirements

Development and Implementation of the Donated Hearing Aid Usability Assessment Tool

According to the International Standards Organization (2018), the term usability is defined as “the extent to which a system, product or service can be used by specified users to achieve specified goals with effectiveness, efficiency and satisfaction in a specified context of use.” This definition relates to the Hearing Aid Bank as not all incoming donations can be immediately used for all potential patients. The usability of a donated hearing aid depends on multiple criteria that moves beyond whether a device simply powers on with the insertion of a new battery. To adequately evaluate the usability of each donation for program use, a Usability Assessment Tool was generated. The Usability Assessment Tool consisted of five phases of analysis. Phase 1 and 2 of the analysis involved gathering all the donations collected between February 1st to March 31st, 2018 and bringing them to the University of Arizona’s Speech, Language, and Hearing Sciences building to identify the number of donations collected by each of the three community partners. Donations dropped off directly at the University of Arizona Hearing Clinic by private donors were also categorized as a separate donation group. Phase 3 consisted of recording the number of donations received by device style. To analyze program sustainability from a supply perspective, identifying the most common style of donated device is important for determining how much of the program stock can be immediately fit without extensive repairs or complete recasing, as is necessary with Receiver-in-the-Canal and In-the-Ear

style hearing aids. Phase 4 involved documenting the number of hearing aids, by style, that powered on with the insertion of a new battery. Phase 5 focused on identifying the number of hearing aids that met multiple criteria for immediate program usability. These criteria were determined based on review with the Sertoma Arizona Hearing Aid Bank Manager and included: 1) the age of each device, 2) whether the devices could be fit with current clinic software, 3) the presence or absence of specific features, including user controls, microphone directionality, and feedback management capabilities, 4) and general repair status. The following subsections describe the importance of user controls, directionality, and feedback management for hearing aid use.

User Controls. Two of the more important hearing aid user controls includes a volume control and/or program button located on the body of a device. The purpose of the volume control is to adjust the gain settings of the hearing aid. Some older devices utilize a rotating wheel that can be turned either clockwise or counter-clockwise on an In-the-Ear hearing aid, or up and down on a Behind-the-Ear hearing aid to change volume. While the rotating wheel design is still used for contemporary In-the-Ear style devices, Behind-the-Ear and Receiver-in-the-Canal hearing aids now incorporate either a rocker or flick switch as a volume control (Dillon, 2012).

Multiple programs or memories can be stored in a hearing aid and are accessed using a small push button or rocker switch. These programs optimize hearing aid programming capabilities for various listening environments and can be used with the telephone. More advanced hearing aids can analyze an individual's sound environment and automatically adjust the device settings (Wagner, 2006; Dillon, 2012). However, automatic program change features are often included in more expensive hearing aids and may not be a readily available option in many of the donated hearing aids used by the Hearing Aid Bank program. When assessing the

quality of a donated hearing aid, typically the presence of a volume control and/or program button is desired to give a patient more control over the device. Nevertheless, the Hearing Aid Bank cannot guarantee that every patient will receive a device with either of these features as the hearing aid stock constantly changes throughout the year.

Directionality. Modern digital hearing aids incorporate two or more microphones and the use of digital signal processing to create directional algorithms that improve the signal to noise ratio for hearing aid users by attenuating sounds from certain directions while enhancing it from others. Directionality is an important consideration for a hearing aid as it improves device performance in a variety of noisy situations, which can be challenging environments for speech perception and understanding (Christensen, 2013; Dillon, 2012). Hearing aids that are too old may not have any directionality capabilities included in their processing platform. Conversely, other hearing aids may have directionality capabilities present but the quality of the function is suboptimal compared to hearing aids with newer processing platforms. Only hearing aids with functional directionality capabilities were considered immediately useable for the Hearing Aid Bank.

Feedback Management. As far as feedback management is concerned, hearing aid feedback occurs when amplified sound from the ear canal leaks back out and is picked up again by the hearing aid microphone. To address this problem, modern hearing aids incorporate an adaptive filter to model the feedback path between the hearing aid microphone and loudspeaker. The output of the adaptive filter is subtracted from the microphone signal to cancel the acoustic and mechanical feedback sound being picked up ("What is Feedback Cancellation? What You Need to Know.", 2014; Kates, 2003; Dillon, 2012). Like the directionality capabilities mentioned above, some hearing aids may not have any feedback management properties while others may

have the feature but the functioning is too poor to be considered effective. Donated hearing aids that lacked this feature were removed from the program stock.

Applicant Data

Hearing Aid Bank program applications received between February 1st to March 31st, 2018 were analyzed to determine: 1) the number of new applicants applying for program services and 2) the number of applicants reapplying for services which is completed every two years. Out of the total number of applications, the number of individuals referred to the Hearing Aid Bank to receive services was documented. The remaining number of applications that did not receive a referral to the program were analyzed to determine the potential requirements not met to qualify for services. Hearing Aid Bank program requirements included: 1) an applicant age minimum of 55 years or older, 2) a specific maximum income, 3) residency within Pima County, and 4) a lack of hearing aid coverage through a primary insurance provider. An example Hearing Aid Bank program application data collection form with hypothetical data is provided in Appendix C.

Community Partners

Participants consisted of the Sertoma Arizona Hearing Aid Bank Manager and three community partner representatives from either the Midtown Sertoma Club of Tucson, the Community Outreach Program for the Deaf, or the Adult Loss of Hearing Association. Each representative provided a general group history and history of involvement with the Hearing Aid Bank. Each representative also discussed their perceived Hearing Aid Bank program challenges and subsequent proposed solutions to said challenges, as well as a list of their group's donation sources. The representative from the Community Outreach Program for the Deaf also provided information about the Hearing Aid Bank program application process and general information about potential barriers to the program that may prevent an individual from receiving services.

Sertoma Arizona Hearing Aid Bank Program Manager. The current Sertoma Arizona Hearing Aid Bank Program Manager began working with the program in 1988. The Program Manager role is held by a clinical faculty member at the University of Arizona who primarily works with adults with hearing loss, hearing aids, and hearing conservation efforts. The Program Manager works alongside other faculty and graduate students to facilitate Hearing Aid Bank fitting appointments and is involved in overseeing the processing of incoming donations.

Midtown Sertoma Club of Tucson. The Midtown Sertoma Club of Tucson is a branch of the Sertoma International organization that was founded in 1912. The group is considered a non-profit association that focuses on assisting individuals with hearing loss and educating the public surrounding hearing health. Their programs and missions include providing scholarships for individuals with hearing loss graduating high school or undergraduate post-secondary school interested in pursuing additional education, and promoting the installation of looped technology in public facilities and buildings. The Tucson branch specifically collects hearing aid donations for the Hearing Aid Bank and hosts monthly donation cleaning meetings at the University of Arizona's Speech, Language, and Hearing Sciences building to help process incoming devices for future clinical use ("What We Do", 2018).

Community Outreach Program for the Deaf. The Community Outreach Program for the Deaf was established in 1973 as a result of grassroots efforts made by Deaf community members to create a group that provided services throughout Arizona to individuals with hearing loss. Current services include emergency services of food and clothing, financial education, hearing aid and device assistance, counseling, case management, vocational services, interpreting services, and more. Additionally, the Community Outreach Program for the Deaf is responsible

for facilitating the application process for the Hearing Aid Bank, as well as collecting hearing aid donations within the community ("About Us", 2010).

Adult Loss of Hearing Association. The Adult Loss of Hearing Association was founded in 1984 by a former teacher who had lost her hearing as an adult. Her own experience with hearing loss, and her own need for support, prompted her to establish the association initially as a peer support group. Over time, it grew into a non-profit agency that offers support, advocacy, information, and training to individuals with hearing loss, enabling them to improve their overall quality of life. The Adult Loss of Hearing Association also participates in collecting hearing aid donations that are processed at the monthly cleaning meetings mentioned above ("Aloha History", 2016).

RESULTS

This section will discuss the data analysis findings for both the qualitative and quantitative portions of the study. Implications of the study findings will be discussed in greater detail in the discussion section.

Perceived Hearing Aid Bank Program Challenges

After completing all in-person interviews with the Sertoma Arizona Hearing Aid Bank Program Manager and each of the three community partner representatives, three Hearing Aid Bank program challenges were identified. The representative from the Midtown Sertoma Club of Tucson stressed the importance of finding new donation sources within the community to increase Hearing Aid Bank program awareness and volume of donations. However, a secondary challenge to creating more connections within the community lies in the fact that more volunteers and time are needed to advocate for the program and contact various sources. Presently, the Midtown Sertoma Club of Tucson does not have any members assigned to

spreading program awareness as no structured system is in place for identifying and maintaining new source relationships. The representative from the Adult Loss of Hearing Association was satisfied with the Hearing Aid Bank overall, but noted that the biggest challenge related to current program guidelines that limit the provision of one hearing aid per applicant, despite instances of bilateral need. This point was also brought up by the representative from the Community Outreach Program for the Deaf, and of equal concern to the Sertoma Arizona Hearing Aid Bank Program Manager. A third program challenge was discussed with the representative from the Community Outreach Program for the Deaf and involved the strict age, income, and residency requirements of the program which prevents some individuals from receiving services.

Proposed Solutions to the Hearing Aid Bank Program Challenges

After the perceived Hearing Aid Bank program challenges were discussed at length, the rest of the interviews were spent exploring possible solutions, as per the view of each representative. In relation to the challenge of finding new donation sources, the Midtown Sertoma Club of Tucson representative suggested that Audiology graduate students from the University of Arizona volunteer their time to identify and contact new agencies within the community to increase Hearing Aid Bank program awareness and volume of donated devices. As students interested in pursuing a career in Audiology are likely familiar with many of the clinical practices in the Tucson community, the Midtown Sertoma Club of Tucson representative thought that they would be the best volunteers for reaching out and making connections. Other agencies could include 1) churches, 2) assisted living facilities, 3) retirement homes, or 4) funeral homes as many of these establishments have direct access to individuals who use hearing aids and may not know that their devices can be donated to the Hearing Aid Bank rather than thrown away.

The representative also suggested that the graduate students could create Hearing Aid Bank program pamphlets and hearing aid donation bins to distribute to organizations interested in participating in donation collections. With respect to the second challenge regarding the limitation of one hearing aid per applicant, both representatives from the Adult Loss of Hearing Association and the Community Outreach Program for the Deaf requested that the current Hearing Aid Bank donation stock be assessed to determine the feasibility of fitting applicants with two hearing aids. The third challenge brought up by the representative from the Community Outreach Program for the Deaf was discussed and determined to have an unclear solution at this time. Specifically, it is unknown which organization would hold the decision power to set or change Hearing Aid Bank program application requirements. Should the requirements be allowed to change, the representative suggested creating both a flexible age and/or income requirement if all other requirements are met.

Reported Hearing Aid Bank Program Advocacy Methods and Donation Sources

As all three community partners work directly with individuals with hearing loss, all the representatives reported that they receive private donations from individuals who heard about the Hearing Aid Bank through word of mouth information sharing. Many members from each organization spread Hearing Aid Bank program awareness through personal connections with individual people in their immediate community. Additionally, many individuals find out about the Hearing Aid Bank through each organization's website which has a dedicated section providing program information regarding ways to donate. In relation to hearing aid donation sources, both the Midtown Sertoma Club of Tucson and the Community Outreach Program for the Deaf receive hearing aids from the Green Valley Lions Clubs, the Pima Council on Aging, multiple private Audiology and Ear, Nose, and Throat practices, and a single funeral home and

assisted living home. The representative from the Adult Loss of Hearing Association reported that all the devices received are private donations from individual people. A complete list of donation sources, by community partner are included in Box 1 below.

Box 1: Complete List of Donation Sources, by Community Partner

Midtown Sertoma Club of Tucson	Adult Loss of Hearing Association	Community Outreach Program for the Deaf
Green Valley Lions Club Pima Council on Aging Bring's Broadway Chapel Broadway Proper El Dorado Audiology Sonoran Audiology Arizona Hearing Center Tucson Ear, Nose, and Throat Private donations	All private donations	Arizona Hearing Specialists Tucson Hearing Clinics, Inc. SoundPoint Hearing Center San Rafael Hearing Center El Dorado Audiology Premier Hearing Pima Council on Aging Private donations

Community Outreach Program for the Deaf Interview Data

The current Community Outreach Program for the Deaf representative in charge of handling applications receives approximately 6-8 new client inquiries per month. This number excludes those who apply for program requalification, which is required every two years to continue receiving services. Although the number of new inquiries varies depending on the time of year, the representative explained that only 2-3 individuals may not qualify for services per month. The representative clarified that typical reasons for disqualification may include: 1) an individual being too young, 2) an individual making too much money, 3) an individual living outside of Pima County, or 4) an individual already having private insurance that may cover the cost, or a portion of, new hearing aids. For the individuals that do not qualify for Hearing Aid Bank services, the representative noted that they are encouraged to reapply if their reason for

initial disqualification changes in the future. When asked about whether a monthly cap existed for program referrals to the University of Arizona Hearing Clinic, the representative explained that the clinic has resources to see six new patients per month. However, no referral is turned away if six new patients have already been scheduled in a single month. Referrals simply roll over to the following month and typically there is no waitlist for services.

Community Outreach Program for the Deaf Application Data

Between February 1st to March 31st, 2018, application data was recorded by the Community Outreach Program for the Deaf representative using the Hearing Aid Bank program application data collection form provided by the researcher involved in this study. A total of 23 applications were received during this timeframe. Out of the total number of applications, 18 corresponded to new applicants interested in receiving Hearing Aid Bank program services while five were considered program requalifications. Twelve applications were referred to the University of Arizona Hearing Clinic for services, with five being requalifications and seven being new applicants. Further analysis was completed to determine why the other 11 new applicants did not receive a referral to the Hearing Aid Bank. The most common program barriers included issues with applicant age, income, residency, or private insurance. Table 1 includes a breakdown of the total number of applications categorized based on each program barrier.

Table 1: Total Number of Applications, by Program Barrier

Program Barrier	Number of Applications
Did Not Meet Age Requirement	1
Exceeded Income Requirement	2
Lived Outside of Pima County	2
Issues with Private Insurance	6
Total Applications Not Referred for Services	11

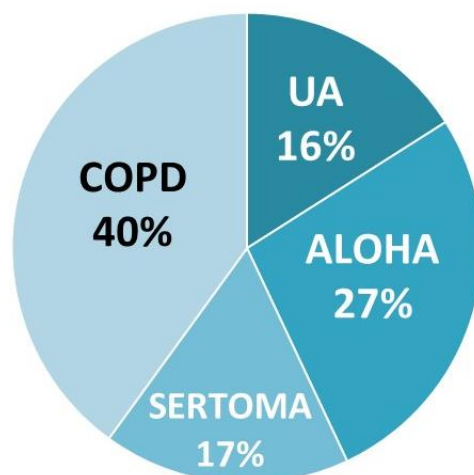
No specific information was recorded regarding the age of the single applicant that was disqualified or the two applicants that exceeded the income requirement. The two applicants that lived outside of Pima County were located in Rio Rico, Arizona and Phoenix, Arizona. Out of the six applicants that had issues with their private insurance, three were disqualified as their private insurance covered some portion of the cost of new hearing aids. The other three applicants did not know if their private insurance provided any coverage. The representative from the Community Outreach Program for the Deaf noted that although these last three applications were not disqualified outright, their advancement through the approval process was placed on hold until their private insurance coverage could be determined.

Hearing Aid Donation Data

Donated hearing aids were analyzed with the Usability Assessment Tool. Donations collected between February 1st to March 31st, 2018 were examined. A total of 121 donations were collected with 20 coming from the Midtown Sertoma Club of Tucson, 33 from the Adult Loss of Hearing Association, 49 from or the Community Outreach Program for the Deaf, and 19 dropped off at the University of Arizona Hearing Clinic directly by private individuals. Figure 2

represents the percentage of donations generated by each community partner out of the 121 total donations.

Figure 2: Percentage of Donations Generated, by Community Partner



UA=The University of Hearing Clinic, COPD=The Community Outreach Program for the Deaf, SERTOMA=The Midtown Sertoma Club of Tucson, ALOHA=The Adult Loss of Hearing Association

Each hearing aid was then separated into one of three categories based on the device style. The three style types included: 1) Behind-the-Ear, 2) In-the-Ear, or 3) Receiver-in-the-Canal. The number of devices in each category were recorded to determine the most common device donation type which was found to be the Receiver in the Canal style hearing aid. Table 2 includes a total number of donated hearing aids, by device style.

Table 2: Total Number of Donated Hearing Aids, by Device Style

Style	Number of Donations
Behind-the-Ear	29
In-the-Ear	23
Receiver-in-the-Canal	69
Total Number of Donated Devices	121

After each donation was separated based on device style, a new battery was inserted and a listening check completed to determine how many hearing aids powered on. Out of the total 121 donated devices, 88 hearing aids powered on with the insertion of a new battery. Table 3 includes the total number of hearing aids that powered on, by device style.

Table 3: Total Number of Hearing Aids that Powered On, by Device Style

Style	Number of Hearing Aids
Behind-the-Ear	19
In-the-Ear	15
Receiver-in-the-Canal	54
Total Number of Donated Devices that Powered On / Total Number of Devices Donated	88/121

The last step in the usability assessment process was to evaluate each of the 88 hearing aids that powered on to determine if they met Hearing Aid Bank program requirements for patient fittings. Out of the 88 hearing aids that powered on, only 33 were considered immediately useable. Five hearing aids were set aside as a secondary fitting source as they met most of the important Hearing Aid Bank program requirements but were not considered as immediately

useable as the other 33 devices. The last 50 hearing aids were either too old, damaged, or poorly functioning for clinical use and were therefore processed for salvage credit. Devices designated for salvage credit are sent to Prarie Labs which is a company partnered with the program that provides salvage credit in exchange for hearing aid parts. The salvage credit can be used to repair a donated hearing aid that would otherwise function well if not for some form of damage. Table 4 includes a breakdown of the total number of hearing aids that were deemed immediately useable, by device style.

Table 4: Total Number of Hearing Aids Deemed Immediately Usable, by Device Style

Style	Number of Hearing Aids
Behind-the-Ear	5
In-the-Ear	6
Receiver-in-the-Canal	22
Total Number of Donated Devices Deemed Immediately Useable / Total Number of Devices Donated that Powered On	33/88

DISCUSSION

The main purpose of this study was twofold: 1) create a clinical process to systematically track hearing aid donations, including donation source and device characteristics, and 2) determine device resources relative to the number of monthly program applications received that would impact the sustainability of the Hearing Aid Bank. To accomplish these aims, this study combined both qualitative and quantitative research methods to assess the community supply of hearing aid donations in relation to community demand for low-cost hearing aids and fitting services. The qualitative data included in-person interviews with representatives from the three community partners of the Hearing Aid Bank. Topics included: 1) current Hearing Aid Bank

program challenges, 2) proposed solutions, 3) community donation sources, and 4) the Hearing Aid Bank program application process. Quantitative data collection involved employing the Usability Assessment Tool to determine the immediate usability of each donated hearing aid to ascertain how many devices met Hearing Aid Bank requirements. Additional quantitative data collection incorporated an analysis of monthly Hearing Aid Bank program applications received by the Community Outreach Program for the Deaf in relation to the number of applicants not referred to program, allowing for the identification of common criteria were not met to determine the major accessibility barriers for receiving services.

The creation of the Hearing Aid Bank in 1979 was based on the principles of volunteerism and community partnerships. To date, all donated hearing aids used in the program were collected through volunteer efforts made by members of the Tucson Hearing Society (now disbanded), the Community Outreach Program for the Deaf, the Midtown Sertoma Club of Tucson, and the Adult Loss of Hearing Association. Without these community partners, there would not be enough community supply of hearing aid donations to meet community demand for low-cost hearing aids and fitting services. Although these organizations are primarily responsible for maintaining current relationships with hearing aid donation sources, members identified three major challenges that impact the sustainability of the Hearing Aid Bank program.

Challenge One: Identify Additional Volunteer Resources

First, the organizations do not have sufficient time or additional volunteers to identify and connect with new potential donation sources of hearing aids. Several representatives raised the question as to whether Audiology graduate students at the University of Arizona could be considered viable volunteer resources for assisting in the identification and contacting of prospective new donation sources. Internal solutions from within the organizations to structure

volunteer recruitment were reported to have previously existed, though now are lacking due changes in membership.

According to Attah & Anam (2017) and Wu (2011), volunteering is broadly defined as a conscious decision by an individual, group, or institution to render services for the benefit of the greater community without necessarily expecting monetary compensation in return for time spent. Volunteer efforts are critical contributions that build strong and cohesive societies around the world by bringing together people who might not otherwise have contact with one another. It is an engagement based on free will, commitment, and solidarity with the purpose of facilitating human development by supporting the delivery of social services to foster reciprocity among people and contributing to social unification. The nature of collaboration on volunteering includes: 1) community partnership, 2) advocacy efforts, 3) networking, 4) support, 5) funding, and 6) invitation to participate in events that serve the greater good of those involved. In most societies, volunteering stems from the most basic form of human values-people helping people and, in the process, helping one another. Volunteering originates from long-established traditions of sharing, community service and philanthropy, or advocacy and civic participation. Volunteering is considered the ultimate form of willingness and ability to help others, bring significant benefits to individuals and communities, and helps to nurture and sustain a richer social texture and increase the adaptive capacity amongst people who share a common location. These capacities reflect the ability of community members to voluntarily organize, utilize, manage, and enhance those resources available to them to address local needs (Attah & Anam, 2017; Wu, 2011).

According to McIlrath and Tansey (2013), universities and other higher education institutions form an integral part of society and provide a space for both understanding and re-

imagining the world. Student volunteering is but a single space and manifestation where this understanding and re-imagining can occur. Volunteering, when embedded as a core activity within the fabric of any campus, can provide students with exposure to real-world problems that directly impact their future careers. Engagement as a fundamental priority for higher education is a multilayered concept that stems from the responsibility of an institution to contribute to the socioeconomic and cultural well-being of a community and society. The experience of engagement within higher education has transformative benefits to students, the institution itself, and the greater society. Student engagement through volunteering has the potential to develop an attitude of civic and social responsibility, and instill in the student a sense of lifelong commitment to community volunteerism (McIlrath & Tansey, 2013).

Audiology graduate students at the University of Arizona may seem to be an ideal source of volunteers for several reasons. Graduate students in Audiology are often familiar with clinical practices within the greater Tucson community. Further, graduate students often have the necessary skills needed to identify other organizations that encounter individuals with hearing loss. The community partners identified a number of potential roles for these graduate student volunteers. Roles could include: 1) researching types of donation sources, such as retirement homes, assisted living facilities, churches, and/or funeral homes, 2) contacting potential donation sources to provide information about getting involved with the Hearing Aid Bank, 3) creating donation bins and program brochures to distribute to the donation sources, 4) and/or collecting donations from potential establishments for the monthly hearing aid cleanings.

Challenge Two: Feasibility of Bilateral Hearing Aid Fittings

Presently, the Hearing Aid Bank only has the resources to fit each patient with one hearing aid due to a limited amount of donation stock. Although current literature suggests that

age-related hearing loss is considered a key public health priority, many individuals are only fit with one device through private clinical practices despite having bilateral need. As there is large variability in individual listening requirements, some people may only need amplification during specific times, such as watching television at home, while others need amplification in more adverse listening situations throughout their day. Though amplification does not restore “normal” hearing, previous literature suggests that having input from both ears enables a listener to localize sounds in space and take advantage of the the psychophysical phenomenon of binaural loudness summation. This phenomenon is thought to be advantageous in some listening situations as sounds presented to both ears are perceived to be louder than sounds presented to one ear alone. However, bilateral hearing aids are often more expensive and listeners may experience another phenomenon called binaural interference in which it becomes more difficult to understand speech when receiving amplified inputs in both ears at the same time (Dillon, 2012; Schilder, Chong, Ftouh, & Burton, 2017).

One of the most important reasons for fitting hearing aids bilaterally is often linked with the evidence for disproportionate decline in function in the ear that is not aided. This decline in function is referred to as the auditory deprivation effect, first described in 1984. Adults with bilateral sensorineural hearing loss who made long-term use of a unilateral hearing aid were found to have a significant reduction in speech recognition capabilities in the ear that did not receive hearing aid stimulation (Schilder, Chong, Ftouh, & Burton, 2017; Silman, Gelfand, & Silverman, 1984; Wieselberg & Iório, 2012; Noble, 2006). Despite previous literature advocating for bilateral amplification, a report published by Arlinger et al. (2003) concluded that there is no significant clinical field evidence supporting claims of greater benefit from two hearing aids rather than one. Gatehouse & Noble (2004) supported this assertion after determining that the

laboratory-based procedures utilized by Audiology clinics only rely on the use of stationary listening conditions, and single, spatially stationary target speech signals heard either in quiet or standardized forms of background noise. While some real-world listening conditions are similar, often speech signals occur in more challenging situations such as multiple or overlapping inputs with a potential change in spatial dynamics. The experience of hearing in everyday environments involves identifying, segregating, and recognizing different components of the audible array of sounds that may fluctuate in terms of source distance and volume. Thus, bilateral hearing aids may demonstrate limited benefits when listening to rapidly switching or simultaneous streams of speech compared to unilateral use, but clear evidence still does not exist to support greater bilateral benefit in domains of hearing that are the traditional objects of inquiry, such as speech intelligibility in quiet and in various adverse listening situations (Noble, 2006).

Despite community partnership concerns regarding monaural fittings, current program resources simply cannot accommodate fitting two devices for every individual with bilateral hearing loss. Bilateral fittings would require an increase in the amount of time spent providing patients with rehabilitative services which would in turn cause an increase in program costs. Unfortunately, with existing resources, such a change would necessitate decreasing the current clinical capacity of fitting six new patients per month, thereby defeating the foundational program principles of providing hearing related healthcare services to as many eligible people in Pima County as possible.

Challenge Three: Eligibility Criteria and Access to Hearing Healthcare Services

Given that Arizona does not provide Medicaid coverage for hearing aids and related Audiology services, the community partners recognized the value of the Hearing Aid Bank program. However, challenges to hearing healthcare access remain an issue when an individual

does not meet some aspect of the Hearing Aid Bank program requirements. For example, if an individual is too young, makes slightly too much money, or lives outside of Pima County, they may not qualify for services. The Hearing Aid Bank primarily provides services to Pima County residents over the age of fifty-five years with income in the lowest bracket. The three organizations raised concerns that these eligibility criteria exclude a number of people in the community who would otherwise greatly benefit from services.

Arnold, Hyer, & Chisolm (2017) generated a state-by-state comparison of Medicaid hearing aid coverage for older adults to determine how many states provided some form of hearing healthcare support. Twenty-eight states offered some degree of coverage, while the remaining 22 states had no coverage availability, leaving few options for residents with hearing loss who faced financial constraints. Although many of the states in the southwest region of the country offered some form of coverage, Arizona was among the 22 states with no benefits. Out of all 50 states, only eight covered the cost of two hearing aids if both ears met hearing loss eligibility criteria. Eleven additional states covered two hearing aids if both ears had hearing loss, but additional criteria also needed to be met. Beneficiaries in these states may qualify for two hearing aids if: 1) they are seeking employment or gainfully employed, 2) are in school, 3) have both hearing and vision loss, 4) have significant mental or physical disabilities, and/or 4) need two devices for safety reasons. While older adults may qualify based on some of these additional criteria, there is no guarantee that old age and hearing loss alone would be enough to receive coverage. Additionally, even though most coverage policies of the 28 states addressed cost issues associated with obtaining, maintaining, and replacing hearing aids, substantial differences related to rehabilitation remained an issue. Several states covered follow-up rehabilitation, but policy

regulations were difficult to interpret as not every state explicitly listed how many visits were paid for, and over what period of time (Arnold, Hyer, & Chisolm, 2017).

Current research suggests that a lack of adequate access to hearing healthcare, coupled with high costs of audiologic management, prevent many older adults from obtaining and consistently using hearing aids. Significant socioeconomic disparities further contribute to this lack of amplification uptake in the United States (Nieman, Marrone, Szanton, Thorpe, & Lin, 2016). For individuals without Medicaid or other insurance coverage, the primary option for obtaining hearing aids is purchasing out of pocket. According to Arnold, Hyer, & Chisolm (2017), the average out of pocket expense for a pair of basic level hearing aids-including professional fees such as fitting, follow-up appointments and rehabilitation-is approximately \$3000, with premium technology costing upwards of \$6,000. Additionally, as hearing aids are considered an electronic device, they require replacement every four to six years. If an adult is diagnosed with hearing loss around the age of 55 and replaces their devices every five years, they would likely end up paying anywhere from \$12,000-\$24,000 on hearing aids by the time they turned 75. For older adults who are eligible for both Medicare and Medicaid, these costs indicate that obtaining hearing aids is unlikely if they reside in a state without hearing healthcare coverage (Arnold, Hyer, & Chisolm, 2017).

Although hearing aids are the most common intervention strategy for hearing loss, uptake rates are only approximately 25 percent among people with moderate-to-severe sensorineural hearing loss, and are even lower among those with lesser degrees of loss (National Academies of Sciences, Engineering, and Medicine, 2016; Nieman, Marrone, Szanton, Thorpe, & Lin, 2016). Lack of hearing aid uptake is considered a public health concern as untreated hearing loss, with its associated reductions in speech understanding, is often linked to increased risks of social

isolation, falls, hospitalizations, and potential cognitive decline in older adults. As an individual's degree of hearing loss increases, it can become more difficult to hear soft sounds, understand the television, talk on the telephone, and/or hear speech in the presence of background noise. Additionally, loudness tolerance problems become more prominent which can lead to decreased willingness to interact with others in noisy social environments. To successfully alleviate some of these symptoms, an accurate identification of hearing sensitivity is needed for appropriate amplification to be recommended. Currently, Medicare Part B only covers the cost associated with an assessment of hearing only if the assessment is ordered by a physician to determine whether medical management is needed, or if the tests will assist in diagnosing or treating a medical condition. Routine audiologic evaluations or testing related to an individual's hearing aids are not currently covered under this insurance plan (Arnold, Hyer, & Chisolm, 2017).

While the cost of hearing aids is considered a significant contributing factor to low uptake in older adults, the rates of use are also significantly impacted by a lack of adequate provisions relating to access to other aural rehabilitation services. Hearing loss is a multidimensional problem that goes beyond simply fitting an individual with amplification. Additional hearing related intervention must also incorporate counseling, coaching, and instruction to learn the appropriate use and care of the devices and to formulate realistic expectations. Patients without access to the rehabilitation portion of hearing healthcare tend to wear their hearing aids inconsistently, if at all, and report low satisfaction with the devices (Arnold, Hyer, & Chisolm, 2017). As part of the Hearing Aid Bank services that are offered, individuals receive a donated hearing aid and substantial rehabilitative services from an Audiologist with a service plan for follow-up care. The value of this follow-up care is reflected

in the fact that many individuals reapply for services every two years. Despite the fact that Hearing Aid Bank patients are only fit with one device, satisfaction with the program is reportedly high because of the level of follow-up care and additional services provided.

To address the growing need for adequate hearing healthcare for older adults in the United States, the President's Council of Advisors on Science and Technology and the National Academies of Science, Engineering, and Medicine, explored the current accessibility and affordability of obtaining hearing aids and other hearing related health services. Both the President's Council and the National Academies highlighted the major barriers to procuring hearing aids and included recommendations for making hearing healthcare more accessible, affordable, and consistent among the various states. One of the recommendations included modifying FDA regulations and allowing for the development of over-the-counter devices for individuals who may not be able to afford hearing aids through private Audiology practices. Additionally, the National Academies also recommended that insurance companies, such as Medicare and Medicaid, evaluate current options to provide more coverage to their beneficiaries (Arnold, Hyer, & Chisolm, 2017; National Academies of Sciences, Engineering, and Medicine, 2016; President's Council of Advisors on Science and Technology, 2015).

Expansion of Hearing Aid Donation Sources

After completing all in-person interviews with the three representatives, results indicate that a majority of the Hearing Aid Bank donations come from southern Arizona. As each of the organizations interact directly with individuals with hearing loss, word of mouth is considered the primary mode of spreading program awareness. Many of the members from each partnership either wear hearing aids themselves or know people within their community that do, therefore advocacy happens through personal channels. Each organization also has a substantial internet

presence, with specific sections of their websites dedicated to providing information about the program and how people can either donate old devices or get in contact with the Community Outreach for the Deaf to apply for services. It is also clear that most of the donations are sourced from local Audiology and Ear, Nose, and Throat private practices. Although the Midtown Sertoma Club of Tucson representative mentioned that some donations are occasionally received from a funeral home and assisted living facility in Pima County, none of the partners have strong connections with other similar establishments. Should the three organizations decide to reach out to other establishments to increase hearing aid donations, assisted living facilities, retirement homes, churches, and even funeral homes could be viable options. Many of these establishments come in some form of contact with older adults who likely have hearing loss and use hearing aids, therefore making them ideal sources for donations. Aside from finding new community sources to increase future donations, the sustainability of the Hearing Aid Bank also relies on creating new ways to advocate for people to donate. While word of mouth information sharing and internet searches have yielded hundreds of donations over the years, value can be found in hosting fundraisers, charity events, or occasional “town meetings” at various forum sites around Pima County to raise program awareness regarding the need for more donations.

Hearing Aid Bank Program Sustainability

According to Currie (2016), healthcare related supply and demand is defined as the amount of care that can be made available compared to the quantity of health services desired by a population. When applying this definition to the Hearing Aid Bank, program sustainability depends on whether there are enough device resources donated each month relative to the number of new program applications received to meet the needs of individuals seeking services. Between February 1st to March 31st, 2018, 121 hearing aids were donated to the Hearing Aid

Bank. However, only 33 of the donated devices (27%) powered on with the insertion of a new battery and met all program fitting requirements as defined in the Usability Assessment Tool. During that same period, 23 Hearing Aid Bank program applications were received by the Community Outreach Program for the Deaf. Out of those 23 applications, 12 were referred to the Hearing Aid Bank to receive services.

Although the number of immediately useable hearing aids appeared to be more than enough to meet the needs of the 12 applicants referred to the Hearing Aid Bank, most of the donated devices were either Receiver-in-the-Canal or In-the-Ear style hearing aids. These particular styles often require more extensive clinical “repairs” compared to Behind-the-Ear hearing aids. Typically, Behind-the-Ear hearing aids are the more desirable style for fittings as they usually need small in-house repairs such as new ear hooks or microphone covers. The only custom portion of the device is typically the earmold that needs to be made to fit the shape of the patient’s ear. If the patient can use a slim tube and soft dome rather than a custom earmold, which depends on the severity of their hearing loss, this further reduces the number of in-house repairs for this style device. While Receiver-in-the-Canal hearing aids are functionally just as appropriate for many listeners as Behind-the-Ear hearing aids, Receiver-in-the-Canal devices often require a specific wire length and speaker power strength for each individual. As these specific receivers are ordered explicitly for the original owner of the device, many Audiology clinics do not carry spare receivers of various lengths and power strengths to change out for a different user. Additionally, many receivers are sometimes cemented to a custom earmold which can make fitting to a new user even more challenging. Assuming the correct wire length and speaker power strength are identified among the useable donation stock, a clinician would need to break off the custom piece which could run the risk of damaging the receiver encased within

the mold. In-the-Ear hearing aids are equally cumbersome to fit as the entire device would need to be recased to match the ear canal shape of a new user. Both types of devices require additional funding to fix compared to Behind-the-Ear hearing aids which is why they are not as frequently fit through this program.

Future Hearing Aid Bank Program Recommendations

Both the qualitative and quantitative data revealed three main areas of current Sertoma Arizona Hearing Aid Bank program practices in need of attention. The following recommendations to address these three areas are based on the study findings:

1. **To increase the number of useable devices obtained per month, the Hearing Aid Bank needs more donated devices to be collected.** Although 121 donated hearing aids were received during February 1st to March 31st, 2018, only 27% powered on with the insertion of a new battery. Out of this 27%, current Hearing Aid Bank funds are limited to fitting 4% of the donations which were Behind-the-Ear hearing aids as the other 23% required additional funding to recondition.
2. **To increase the number of donated devices obtained each month, more volunteers are needed to help current community partners identify and contact new donation sources within the Tucson community.** Potential volunteer sources could include Audiology graduate students at the University of Arizona to both promote the development of volunteerism skill and help maintain student-community partner relationships.
3. **Until new donation sources can be identified and contacted, possible fundraising options should be explored to allow for the better utilization of current Hearing Aid Bank donated stock.** About 23% of the hearing aids donated during the program

evaluation period required additional funding to be reconditioned. Rather than letting these devices sit in the program stock donation bin and go unused, efforts should be made to raise supplementary funding that could go to reconditioning these otherwise useable devices for patient fittings.

Conclusions

Taken together, the results indicate that sustaining the Hearing Aid Bank will require developing new strategies for recruiting volunteers and new donation sources while maintaining current program efforts. Despite community partnership concerns regarding unilateral fittings, current program stock and resources do not accommodate fitting each individual with two devices. These findings indicate a need for increasing the number of devices donated to the program to potentially fit individuals with two devices in the future. However, it should be noted that the number of devices is not the only limiting factor on this issue, as bilateral fittings would also necessitate an increase in the rehabilitative services needed for each individual which would also increase program costs. Unfortunately, with existing resources, such a change would require decreasing the number of new patients who receive services per month. Additionally, while changing program application requirements would allow for more individuals to qualify for services, present limited resources would not be enough to sustain an increase in new patients despite the current practice of fitting devices unilaterally. Although the existing program fulfills important community needs by providing low cost hearing health related services to many individuals who might otherwise not be able to afford new hearing aids, future dedicated and systematic efforts are needed to increase the number of donations through new advocacy efforts to ensure the program remains a viable option for Pima County residents.

APPENDICES

APPENDIX A: INTERVIEW QUESTIONS

Protocol:

I am working with the University of Arizona Hearing Clinic on a new project about where Hearing Aid Bank donations come from on a large scale as well as how various hearing-related community partners advocate for the program. I am also interested in obtaining information about the application process and qualification criteria for the Hearing Aid Bank. This information will be helpful to me as it will allow me to assess how our program supports individuals within the Pima County community with hearing loss.

General Questions:

1. How long have you been volunteering for the Hearing Aid Bank?
2. How long has your organization been affiliated with the Hearing Aid Bank?
3. What do you believe the current challenges to the program are?
4. Do you have any suggestions for how the program can be improved overall?
5. Is there anything else you would like to share about your experiences with the Hearing Aid Bank?
6. Why does your organization choose to support the Hearing Aid Bank?

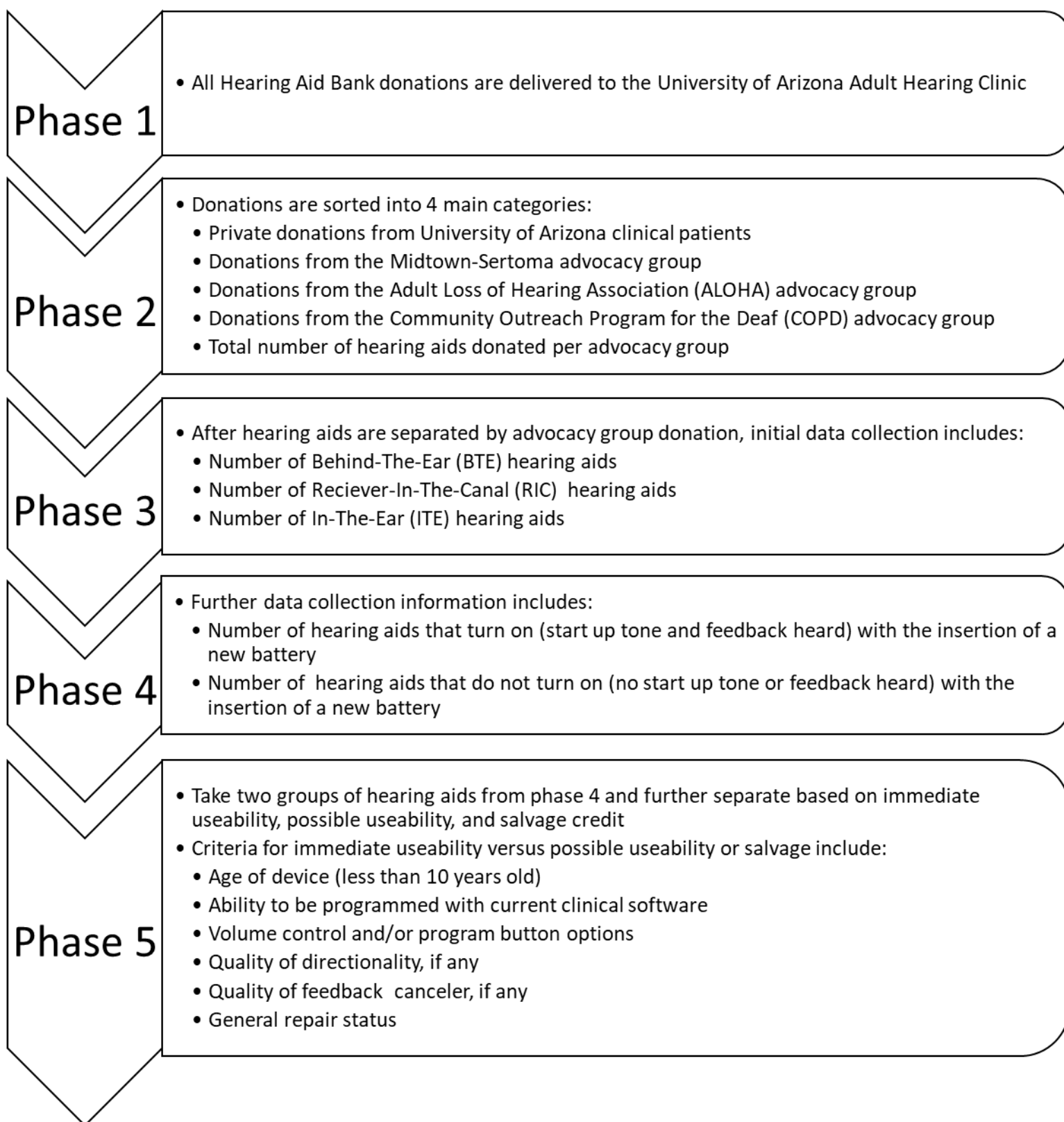
Community Partner Questions:

1. Why do you choose to participate in hearing aid collections?
2. How do you and your group promote this program to facilitate the donation process?
3. Where do you collect your donations from?
4. How often do you collect your donations?
5. How often do you drop off donations to the University of Arizona?

COPD Questions:

1. How many applications are received on a monthly basis?
2. Out of those applications, how many individuals might not qualify for services?
3. What are some typical reasons an individual might not qualify for services?
4. What happens to individuals who do not qualify for services?
5. How many qualified individuals are referred to the University of Arizona for services each month?
6. Is there a cap for qualified individuals each month?
7. Is there a waitlist for qualified individuals that are approved after the cap is reached?

APPENDIX B: HEARING AID USABILITY ASSESSMENT TOOL



**APPENDIX C: EXAMPLE PROGRAM APPLICATION DATA COLLECTION FORM WITH
HYPOTHETICAL DATA**

Applicant Number	Did Applicant Qualify?	Exceeded Income Requirement	Lived Outside Pima County	Younger Than Age Minimum of 55 years	Other: Please Explain
Ex: Applicant 1	No			X	
Ex: Applicant 2	Yes				
Ex: Applicant 3	No				Private insurance covers cost of new hearing aids
Ex: Applicant 4	No	X			

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